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XXV. *Account of a Phenomenon observed upon the Island of Sumatra. By William Marsden, Esq.; communicated by Sir Joseph Banks, P. R. S.*

Read May 24, 1781.

S I R,

Caroline-street,
Feb. 24, 1781.

DURING my residence on the island of Sumatra in the East Indies, I had occasion to observe a phenomenon singular, I believe, in its kind, an account of which may not perhaps be uninteresting to the curious.

In the year 1775 the S.E. or dry monsoon, set in about the middle of June, and continued with very little intermission till the month of March in the following year. So long and severe a drought had not been experienced then in the memory the oldest man. The verdure of the ground was burnt up, the trees were stripped of their leaves, the springs of water failed, and the earth every where gaped in fissures. For some time a copious dew falling in the night supplied the deficiency of rain; but this did not last long: yet a thick fog, which rendered the neighbouring hills invisible for months together, and nearly obscured the sun, never ceased to hang over the land, and add a gloom to the prospect already but too melancholy. The Europeans on the coast suffered extremely by sickness; about a fourth part of the whole number being carried off by fevers

and other bilious distempers, the depression of spirits which they laboured under not a little contributing to hasten the fatal effects. The natives also died in great numbers.

In the month of November 1775, the dry season having then exceeded its usual period, and the S.E. winds continuing with unremitting violence, the sea was observed to be covered, to the distance of a mile, and in some places a league from shore, with *fish* floating on the surface. Great quantities of them were at the same time driven on the beach or left there by the tide, some quite alive, others dying, but the greatest part quite dead. The fish thus found were not of one but various species, both large and small, flat and round, the Cat-fish and Mullet being generally the most prevalent. The numbers were prodigious, and overspread the shore to the extent of some degrees; of this I had ocular proof or certain information, and probably they extended a considerable way farther than I had opportunity of making enquiry. Their first appearance was sudden; but though the numbers diminished, they continued to be thrown up, in some parts of the coast, for at least a month, furnishing the inhabitants with food, which, though attended with no immediate ill consequence, probably contributed to the unhealthiness so severely felt. No alteration in the weather had been remarked for many days previous to their appearance. The thermometer stood as usual at the time of year at about 85°.

Various were the conjectures formed as to the cause of this extraordinary phenomenon, and almost as various and contradictory were the consequences deduced by the natives from an omen so portentous; some inferring the continuance, and others, with equal plausibility, a relief from the drought. With respect to the cause, I must confess myself much at a

less to account for it satisfactorily. If I might hazard a conjecture, and it is not offered as any thing more, I would suppose, that the sea requires the mixture of a due proportion of fresh water to temper its saline quality, and enable certain species of fish to subsist in it. Of this salubrious correction it was deprived for an unusual space of time, not only by the want of rain, but by the ceasing of many rivers to flow into it, whose sources were dried up. I rode across the mouths of several perfectly dry, which I had often before passed in boats. The fish no longer experiencing this refreshment, necessary as it would seem to their existence, sickened and perished as in a corrupted element.

If any thing similar to what I have above described has been noticed in other parts of the world, I should be happy by a comparison of the attendant circumstances, to investigate and ascertain the true causes of so extraordinary an effect. In communicating to you the observations I have made, I pursue the most likely means of obtaining this satisfaction.

I have the honour to be, &c.

